GIA Environmental Health and Safety Respiratory Protection Standard

DOCUMENT IDENTIFIER: A-SP-ELMF775-00-0000 Rev A, 22-May-1992

ABSTRACT: The purpose of this GIA standard is to define the basic elements and responsibilities to ensure the safe use of respiratory protection.

APPLICABILITY: This GIA standard shall apply to GIA facilities and operations worldwide unless superseded by more stringent country and/or local regulations.

STATUS: APPROVED 22-May-1992; use VTX SMC for current status.

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REVISION HISTORY:	No previous revision exists.
Document Management Category:	Environmental Health and Safety (MEH)
Responsible Department:	GIA Manufacturing and Engineering
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APPROVAL: This document has been reviewed and recommended for approval by the General Review group for its category.

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1 INTRODUCTION

The purpose of this GIA standard is to define the basic elements and responsibilities to ensure the safe use of respiratory protection.

1.1 SCOPE

This standard shall apply to GIA facilities and operations worldwide unless superseded by more stringent country and/or local regulations.

1.2 Policy

An effective written Respiratory Protection Program shall be established, implemented, and maintained.

1.3 RESPONSIBILITIES

- Site Manager

  Ensure there is a written Respiratory Protection Program developed, implemented, and maintained to ensure the safe use of respiratory protection equipment required on site.

- Department Manager/Supervisor

  Ensure that feasible engineering controls are implemented as the preferred method of controlling exposure to airborne contaminants in the workplace.

  Ensure employees use respirators only when they are certified to do so and in a manner consistent with the requirements of the written Respiratory Protection Program and applicable training.

  Assist Environmental Health and Safety (EH&S) in identifying areas requiring the use of respiratory protection. These areas may include, but not be limited to, production, maintenance, engineering or emergency response situations.

  Maintain knowledge and skills in order to ensure that respirators are used properly, safely, and according to the requirements of the written program.

  Identify persons working in areas where respiratory protection is or should be required.

  Inform EH&S of any changes in workplace conditions that may necessitate the use of respiratory protection, or new employees who might be required to use respirators.

  Maintain a list of certified respirator users, including the type of respirator to be used and date of expiration of certification.

  Ensure that only respirators approved by EH&S for the specific job are utilized by employees.

Ensure that respirators are maintained in a clean and sanitary condition.

Schedule respirator users for certification or re-certification, as required.

Conduct periodic audits of respiratory protection usage to ensure that it is being properly used and maintained.

Inform potential employees that facial hair, which interferes with respirator fit, is not permitted.

- Employees

  Use respirators only when certified to do so.

  Use only assigned respirators in accordance with certification, instruction, and training received.

  Inform supervision and Health Services of any health conditions that may be aggravated by the use of a respirator.

  Perform tasks requiring the use of respiratory protection only when such equipment is available and in usable condition.

  Use only respirators that are clean and in good condition. Report problems with a respirator to supervision.

  Use only respirators issued by Digital and approved by EH&S for the specific job.

  Perform pre-use inspections and self-administered fit tests on respirators prior to use.

  Clean and sanitize respirators after each use and return them, properly bagged and sealed, to their storage location. Change cartridges as required. Supplied respirators, such as self contained breathing apparatus (SCBAs) and airline respirators, must be returned to a specified location for regeneration and maintenance as required after use.

  When not in use, store respirators in a clean and sanitary condition.

  Maintain respirators, as required.

- Contract Employees

  If predetermined in contract terms and conditions, contract employees shall be permitted to be issued and use respiratory protective equipment supplied by Digital.

  Shall satisfy or show proof that training and medical approval requirements, at least equal to those that are required of Digital employees performing the same task, have been met before donning ANY respirator.

Shall be allowed to use respiratory protection on site only after the contractor's written respiratory program has been reviewed and approved by site EH&S.

- Site Environmental Health and Safety (EH&S)

  Assist in assuring that feasible engineering controls are the primary method of controlling exposure to airborne contaminants in the workplace.

  Assist management and consult in the development, operation, and maintenance of the site's written Respiratory Protection Program and all associated standard operating procedures.

  Ensure that one individual is assigned responsibility and authority for the respirator program, including the maintenance of written program procedures and records.

  Ensure that the Respiratory Protection Program is reviewed and updated at least annually.

  Perform air sampling or otherwise evaluate the need for respiratory protection.

  Designate operations or situations for which respirators are mandatory or authorized. Determine which type of respirator is required.

  Ensure that all respirators are properly selected, used, and, are repaired and maintained according to vendor specifications.

  Conduct or arrange for respiratory protection training and fit testing.

  Maintain records of certified respirator users.

  Conduct audits of the Respiratory Protection Program to ensure program effectiveness and compliance. The results of these inspections and any corrective actions taken shall be documented.

  Provide Health Services with pertinent information regarding potential users of respirators and the environment in which they will be working.

  Ensure that a process exists so that respiratory equipment for emergency use, such as self-contained breathing apparatus (SCBA), is cleaned and reactivated after use.

  Ensure that breathing air is of acceptable quality as defined by country and/or local requirements. If no such requirements exist, then Grade D air as described in the *Compressed Gas Association Commodity Specification G-7.1-1968* in the US shall be used. Oxygen shall not be used for breathing air.

  Ensure that breathing air and cylinders are tested for oxygen and carbon monoxide (CO) content.

- Health Services

  Establish and administer medical respirator approval certification examinations to ensure that only those medically qualified are permitted to use respiratory protection.

  Ensure that the medical evaluation considers the environment in which the person will be working, such as areas that may be oxygen deficient, contain toxics, or be immediately dangerous to life and health (IDLH).

  Schedule initial employee medical evaluations and annual re-evaluations.

  Maintain records of all medical evaluations and notify department management /supervision and EH&S which employees are medically certified to use respiratory protection.

1.4 DEFINITIONS

Air Purifying Respirator — A respirator in which ambient air is passed through an air-purifying element that removes the contaminant(s). Air is drawn through the air-purifying element by means of the breathing action. These types of respirators are variously called disposable air purifying, particle removing, dust masks, cartridge type, negative pressure, and air purifying.

Confined Spaces — Enclosures that have limited openings for entering or exiting and may lack adequate ventilation or may contain life-endangering atmospheres, corrosive contaminants, or atmospheres without sufficient oxygen.

Confined spaces include, but are not limited to storage tanks, process vessels, towers, stacks, pits, trenches, degreasers, reactor vessels, boilers, ventilation and exhaust ducts, filter plenums, machinery spaces with one exit, manholes, or any open-topped space more than 4 feet in depth that does not have adequate ventilation. The configuration of the enclosure and the operations conducted within it determine whether that enclosure is a confined space.

Contaminant — A harmful, irritating, or airborne nuisance material present in ambient air.

Disposable Respirator — A respirator for which maintenance is not intended and is designed to be discarded after excessive resistance to breathing develops, there is sorbent exhaustion, physical damage, it is soiled from use, or end of service life renders it unsuitable for use. At a minimum, these respirators shall be approved for toxic dusts. Masks approved for nuisance dusts shall not be permitted.

Engineering Controls — These are the preferred methods of control of exposure to contaminants. They may include, but not be limited to any of the following or a combination of local exhaust ventilation, enclosures, isolation, and wet methods.

Exposure Limit — The maximum allowable concentration of a contaminant in the air to which an individual may be exposed. These concentrations may be time-weighted averages, short-term limits, or ceiling limits.

Immediately Dangerous to Life or Health (IDLH) — Any atmosphere that poses an immediate hazard to life or poses immediate irreversible debilitating effects to health.

Powered Air-Purifying Respirator (PAPR) — A respirator in which ambient air is drawn through an air-purifying element that removes contaminant(s). Air is drawn through the air-purifying element by means of a battery operated blower. These can be half or full face or hoods and provide air under positive pressure.

Pressure-Demand Self-Contained Breathing Apparatus (SCBA) — An atmosphere supplying respirator in which the breathing air is carried by the wearer in a cylinder. Such a respirator maintains a constant positive pressure within the faceplate supplying additional breathing air when the positive pressure is reduced inside the faceplate by inhalation.

Qualitative Fit Test — A pass or fail fit test that relies on the subject's sensory response to detect the test material, such as irritating smoke or banana oil, and therefore tests the effectiveness of the respiratory protection.

Quantitative Fit Test — A fit test that uses an instrument to measure the challenge agent and, therefore, the effectiveness of the respiratory protection. A *numerical protection factor* is determined for each respirator user. This test is preferred whenever possible.

2 PROGRAM REQUIREMENTS

2.1 RESPIRATOR SELECTION

Respirator selection shall meet the following criteria:

- Be based on hazard(s) to which employees are or may be exposed.

- Be appropriate for the specific hazard and only for use in specified locations.

- Selection considerations shall be defined and include, but not be limited to the following: (See Appendix A.)

  Determined prior to respirator selection and periodically reviewed during respirator use

  Type and concentration of air contaminant

  Location, frequency, and physical aspects of the job

- Available Respirator Types: The type, concentration of contaminant present, and situation will determine the type of respiratory protection required. This equipment shall be used under the conditions for which it was designed and approved.

  Disposable Air Purifying Masks or *Dust Masks* are single-use disposable respirators. They shall, at a minimum, be approved for toxic dusts.

  Air Purifying, Cartridge/Canister, and *Negative Pressure Respirators* consist of a full- or half-face mask and are equipped with cartridges specific to the contaminant that is present.

NOTES ON AIR-PURIFYING RESPIRATORS

The proper choice of the cartridge or canister is critical. The use of the wrong cartridge or canister will cause the wearer to be unprotected.

They shall not be used under IDLH conditions.

They shall not be used in atmospheres where the concentration of oxygen is less than 19.5% by volume.

They shall not be used in atmospheres where the manufacturer's recommended maximum use concentration of the cartridge will be exceeded.

Chemical/cartridge or canister respirators shall not be used for protection against air contaminants that cannot be detected by odor or irritation at concentrations below the occupational exposure limit, or for which olfactory fatigue may occur rapidly at high exposure levels.

Chemical cartridges or canisters shall be approved for the particular contaminant of concern.

Pressure-Demand Self-Contained Breathing Apparatus (SCBA) consist of a full-faceplate mask attached to a fully portable compressed breathing air tank worn by the user. SCBAs to be used in an emergency response only shall be wall mounted or otherwise easily available in pairs near where they may be needed. SCBAs may also be required for routine and non-routine tasks, such as confined space entries. Designated SCBAs may be used for routine operations involving oxygen deficient atmospheres and IDLH conditions.

Special Site or Process Requirements may justify the need for other types of respiratory protection. These types of respirators may include:

- Supplied air pressure demand airline
- Supplied air pressure demand airline with escape SCBA (Hip-pak)
- Powered air purifying (PAPR)
- Supplied air continuous flow.
- The use of these types of equipment involve special precautions. Should there be the need to consider this type of equipment, Area EH&S can be contacted for assistance.

2.1.1 Issuance of Respirators

The following restrictions apply to the issuance of repirators.

- Respirators shall be issued only by a person who has been adequately trained to do so.
- Respirators shall be issued from a predetermined and approved location, and only when the certification of the user can be confirmed.
- Wall-mounted emergency response SCBAs shall be used only during an emergency, and only by those individuals who are certified for emergency response usage.

2.2 HAZARD EVALUATION FOR RESPIRATOR SELECTION

Respirator usage shall be based on the review of an operation or location with the potential for actual exposure to harmful levels of contaminants in the work environment.

The evaluation of a hazard shall be conducted before commencing a routine or nonroutine task that has the potential to require the use of respiratory protection.

Respirators shall be used only with prior EH&S authorization until feasible engineering controls can be instituted. Situations include, but are not limited to the following.

- In response to an existing condition.
- In the event of a process change that could potentially generate unknown levels of workplace environmental contaminants.
- In response to complaints regarding chemical odors, irritation, or other symptomatic factors that indicate unknown and potentially excessive levels of airborne chemical vapors, mists, fumes, gases, or particulate are present in the work environment.
- For a designated and required emergency response activity.

Prior to the issuance of a respirator, an evaluation of the environment in question shall be conducted by department management or supervision and EH&S to determine whether respirators shall be required. The evaluation shall include, but not be limited to, a review of the following areas. (See Appendix A.)

- Industrial processes including the type of equipment, how it is used, and under what conditions
- The work area including its size, equipment layout, the type of ventilation and its effectiveness, additional contaminant control measures, and the general environmental conditions
- Employee activity including the number of people involved, job routines, work location, amount of time spent in the area, and work rates

- Known potential inhalation hazards including chemical components, type of contamination, and toxicity and occupational health hazard data

- Available industrial hygiene data including measurements of levels of contaminant performed by a qualified industrial hygienist

Respirators shall not be used in lieu of feasible engineering controls that may include, but are not limited to local exhaust ventilation, enclosures, isolation, and wet methods.

2.2.1 Mandatory Use of Respiratory Protection

- Certain defined production, maintenance, and emergency response activities shall require the use of respiratory protection.

- Specialized programs for production, maintenance, and emergency activities that require the unique use of respiratory protection shall be developed and maintained.

2.2.2 Authorized Use of Respirators

- Employees may elect to request the use of a respirator for certain production and maintenance activities for which the use of a respirator is not mandatory.

- Authorization shall be obtained from EH&S Department.

- A list of production and maintenance activities where respiratory protection is authorized shall be developed and maintained.

- Such use of respirators shall comply with all requirements of the written Respiratory Protection Program.

- Nonmandatory use of respirators is discouraged.

2.2.3 Other Uses for Respirators

A requirement for temporary, nonroutine use of respirators may arise. The requirement shall be added to the documented list of activities where temporary, nonroutine use is either required or authorized.

2.3 RESPIRATOR CERTIFICATION—TRAINING AND FIT TESTING

Respirator users shall be certified as having successfully fulfilled medical, training, and fit testing requirements prior to respirator use.

2.3.1 Requests for Certification

- Individuals requiring or requesting certification to use a respirator shall first notify their Department Manager/Supervisor.

- A Department Manager/Supervisor is responsible to ensure that employees are wearing the proper respiratory protection while performing tasks that require mandatory or authorized respiratory protection.

- The employee must have current respirator medical approval before attending required respirator training and fit testing.

- Certification with the associated training, medical clearances, and fit testing shall be required upon initial assignment and, thereafter, at least annually or sooner should the conditions of use change, or there is a change in the physical condition of the user.

2.3.2 Training

Training shall be documented and presented to the following groups. The documentation shall include, as a minimum, the details as noted for each group.

An individual who will be wearing a respirator must have medical approval prior to attending a training session. No one shall don a respirator without having first received medical approval.

- Supervisors of employees using respiratory protection

  Teach basic respiratory protection

  Discuss regulations concerning respirator use

  Discuss the nature and extent of respiratory hazards to which persons under supervision may be exposed

  Recognize and resolve issues pertaining to respirator use

  Discuss the principles and criteria for selecting respirators used by persons under their supervision

  Train respirator users

  Fitting and issuance of respirators

  Inspection of respirators

  Use of respirators, including monitoring of usage

  Maintenance and storage of respirators

- Those with the responsibility of issuing respiratory protection

  Standard operating procedures concerning respirator use

  Ensure the respirator is correct for each application, and is issued only to certified users

- Respirator users

  The need for respiratory protection

  Regulations concerning respirator use

  The nature, extent, and effects of respiratory hazards in the workplace

  The need to inform supervisors of any problems experienced by respirator users or their coworkers

  An explanation of why engineering controls are not being applied or are not adequate. What effort is being made to reduce or eliminate the need for respirators

  An explanation of why a particular type of respirator has been selected for a specific respiratory hazard

  An explanation of the operation, capabilities, and limitations of a selected respirator

  Instructions for inspecting and donning the respirator. This includes a requirement that a fit check shall be done each time the respirator is donned or adjusted.

  Successful completion of a fit test

  An explanation of how to maintain and store a respirator

  Instructions in emergency procedures

2.3.3 Respirator Fit Testing Protocol

The respirator fit testing protocol shall be designed and performed by EH&S, Health Services, or other authorized and qualified groups.

- Medical approval is a prerequisite for participating in fit testing.
- Proper fit shall be determined before respiratory protection is issued and worn.
- Fit test certification shall not be granted unless an acceptable face seal has been demonstrated.
- Fit tests shall be repeated, at least annually, to ensure continued satisfactory fit.

- Fit tests are only valid for the particular type, brand, and model of respirator for which the testing is performed. It must be repeated should the type, brand, or model of respirator be changed.

- Scheduling shall be the responsibility of the Department Manager/Supervisor and the user.

- Employees who are not able to pass the fit test shall not be certified to wear a respirator.

- Employees not certified to wear respirators shall not perform jobs that require respirators.

- The following qualitative fit testing protocol, at a minimum, shall be performed to certify adequacy of respirator fit for all respirators excluding the dust mask and continuous flow type.

  Irritant smoke or isoamyl acetate (banana oil)

  Negative pressure test

  Positive pressure test

- Quantitative fit testing may be required for any or all of the following reasons.

  To comply with specific regulatory requirements

  To comply with specific Corporate and GIA policies, standards, and guidelines

  If the potential exposure is sufficiently critical to require an additional level of assurance that the respirator seal is sufficient.

2.3.4 Facial Hair, Eye and Face Protection and Corrective Lenses

- Facial hair—Respirators shall not be issued to anyone with facial hair that interferes with the respirator seal or the normal functioning of the exhalation valve.

- Eye and face protection—Goggles, face shields, safety glasses, or welder's helmet may be worn only if they do not interfere with the positioning or seal of the respiratory protection device.

- Corrective lenses

  Contact lenses shall not be worn while using a respirator.

Where required, special prescription glasses that fit securely inside the respirator shall be worn.

Special glasses shall be obtained through Health Services.

Use of corrective lenses with half- or quarter-mask—The lenses must not interfere with the fit or positioning of the respirator.

Use of lenses with full face mask—Corrective lenses with full temple bars are not permitted. Corrective lenses with partial temple bars or that can be secured inside the respirator and do not interfere with the positioning or seal of the respiratory protection device, shall be provided for those who are required to use such equipment as part of their job responsibilities.

2.3.5 Maintenance of Records of Training and Fit Testing

- Records of training and fit testing shall be maintained.
- Fit testing records shall include the following information.

  Written standard operating procedures for the respirator fit testing program, including pass or fail criteria

  Type of respirator fit test(s) used, including the specific fit test protocol

  Type of fit test instrumentation and equipment used and the calibration, maintenance, and repair, where applicable

  Name and employee number or identification of the test operator

  Name and employee number or identification of the person tested

  Date of test

  Results of fitting test

  — Fit factor based on quantitative fit test(s). To pass, requires a fit factor at least 10 times greater than the assigned protection factor for a particular respirator.

  — Success or failure to obtain a satisfactory fit based on qualitative fit test(s).

  — Any special considerations or difficulties pertinent to the wearer, such as the requirement that protective equipment or corrective lenses be worn, the need for dentures, the presence of scars, and so forth.

2.4 RESPIRATOR INSPECTION, MAINTENANCE, CLEANING, AND STORAGE

2.4.1 Inspection

- Before donning a respirator, the wearer shall inspect it for defects according to the training given.

- Under no circumstances shall a respirator with a known defect be worn. It shall be either repaired by a qualified person, according to the manufacturer's instructions or replaced.

- Respirators that are worn or have deteriorated shall be repaired by a qualified person or replaced prior to use.

- Respirators intended for emergency use, such as Self-Contained Breathing Apparatus (SCBAs), shall be thoroughly inspected after each use as well as monthly, according to the manufacturer's recommendations. These inspections shall be documented and the records retained.

- Air used in SCBAs shall meet grade D breathing air specifications, or equivalent.

  Oxygen and carbon monoxide testing shall be done on all sources of compressed breathing air.

2.4.2 Maintenance

- Maintenance shall be done only by designated persons trained to do so.

- No repairs or modifications shall be attempted by other than a person properly trained according to the manufacturer's specified procedures, and using only parts supplied by the manufacturer. The use of one manufacturer's parts on another manufacturer's respiratory protection device is not permitted.

- SCBA repairs shall be performed by an approved manufacturer or qualified vendor, as necessary.

- Spent SCBA air tanks shall be refilled after each use. Maintenance and refilling of cylinders and exchange of spent cylinders with full ones shall be ensured.

- Repair operations on supplied air respiratory protection systems shall be conducted only under strict lockout and tagout procedures.

- Regardless of the reason, breathing air is the only gas that shall be introduced into any compressed breathing air system.

2.4.3 Cleaning

- Cleaning shall be done according to specified manufacturer protocols.
- Respirators used on a routine basis shall be cleaned and sanitized daily after use. Filters and cartridges shall be replaced, as required by use.
- Respirators in use on a nonroutine basis shall be cleaned and sanitized after each use and filters and cartridges replaced.

2.4.4 Storage

- Respirators shall be stored in a clean, sanitary location close to the area requiring their use.
- Negative pressure respirators shall be stored in such a manner that the cartridges are protected from air contamination which will degrade the filter media. Airtight plastic bags or similar arrangements are required.
- Emergency use respirators, such as SCBAs, shall be stored where they are easily accessible in case of emergency. They shall not be stored in an area where the possibility of an emergency would prevent access.

2.5 AUDIT

There shall be regular documented inspections and evaluations to ensure the continued effectiveness of the Respiratory Protection Program.

Observed deficiencies shall be documented and corrected immediately.

The audit of the Respiratory Protection Program shall include, but not be limited to the following.

- Program administration
- Training
- Medical evaluations and approvals
- Fit testing
- Air sampling and hazard classification
- Selection, issue, and use of respiratory protection

- Equipment cleaning, inspection, and maintenance
- Breathing air supplies
- Storage
- Emergency preparedness
- Special issues

The following is a list of the documentation that shall be maintained as part of this program.

- The Written Respiratory Protection Program Document: Contains site specific operating procedures and guidelines.
- Mandatory or Authorized Uses Document: Lists activities for which respirator use is mandatory, or nonmandatory but authorized, and the type of respiratory protection required for each instance.
- Training and Fit-Testing Examinations: Documents training programs, written tests, and fit-testing protocols administered as part of the certification process.
- Respiratory Protection Equipment Maintenance File: Contains hydrostatic testing records and other manufacturer and regulatory requirements.
- SCBA Inspection Checklist: Report form that is filled out on a monthly basis as part of monthly inspection activities.
- Inspection Tags: Tags that are affixed to individual SCBAs.

2.6 MEDICAL APPROVAL

Medical approval is required prior to employee certification and use of any respiratory protection. (Refer to *Health Services Manual, Policies and Procedures, Respirators: Medical Qualification For Employee Utilization.*)

Medical approval is necessary to determine whether the employee is medically capable of performing the selected task with the use of the required respiratory protection.

Medical approval is coordinated by Health Services and the employee's manager or supervisor. Medical screening is performed by a licensed physician or medical practitioner.

Examinations shall be conducted annually, or as required, to ensure that conditions with the potential of affecting the employee's physical ability to safely use a respirator have not changed adversely.

Employees who are not medically certified to wear respirators shall not be assigned jobs that require the use of a respirator.

Medical evaluation shall include both a medical history and a physical examination. Specific evaluation criteria shall be established and documented by Site, Area, or Corporate Health Services. Suggested criteria include, but are not limited to:

- Any employee having concerns about the use of a respirator of any type shall be referred back to department management or supervision for discussion of the following issues before beginning medical certification.

  Medical history

  Medical examination

  A follow up of abnormalities

  Approval or rejection based on established criteria

2.7 USE OF APPROVED RESPIRATORS

Respirators must be approved by the applicable country and/or local respiratory protection approval authority, or in the absence of such a group, the U.S. National Institute for Occupational Safety and Health (NIOSH) or the U.S. Mine Safety and Health Administration (MSHA).

Respirators shall be supplied, at no cost, by Digital. Only these respirators may be used while doing job related activities for Digital.

2.8 SELF-CONTAINED BREATHING APPARATUS (SCBA)

The buddy system is required for the use of SCBAs or airline respirators, regardless of whether it is a routine or nonroutine activity. (Refer to *EL-MF738-00 GIA Environmental Health and Safety Working Alone Standard*).

SCBAs designated for emergency use shall be available in pairs so they are easily accessible in an emergency. Spare cylinders, where provided, shall also be available in pairs.

2.8.1 SCBA Use

- Employees shall be medically qualified and trained in the operation and use of the SCBA.

- Training shall be consistent with the anticipated use of the equipment, whether for routine or emergency purposes.

2.8.2 Inspection

- SCBAs shall be thoroughly inspected according to the manufacturer's specifications, monthly and after each use.

- Defective units shall be removed from service and replaced with a spare, when available.

- Records of inspections shall be maintained.

2.8.3 Maintenance

- SCBAs shall be maintained according to the manufacturer's specifications.

- SCBAs shall be removed from service and returned to the manufacturer's factory or authorized service center for overhaul and calibration, as recommended by the manufacturer.

- Cylinders shall be hydrostatically tested according to the manufacturer's recommendations as well as country and/or local regulations.

- Records of maintenance for each unit shall be maintained.

APPENDIX A INDUSTRIAL HYGIENE HAZARD EVALUATION OF WORK ENVIRONMENTS POTENTIALLY REQUIRING RESPIRATOR USE

The following items should be considered in the Industrial Hygiene Hazard Evaluation. The key element is the exercise of professional judgment in the assessment of measurement data, knowledge of the operations involved, and potential worst case scenarios. These evaluations shall be maintained on file and updated as required.

1. Information about the industrial process
    a. Type of equipment used
    b. Operation of the equipment
    c. Physical conditions during the operation of equipment, such as noise lighting, and so forth
2. Information about the work area
    a. Size of the work area
    b. Layout of equipment used
    c. Type of ventilation and its effectiveness
    d. Temperature and humidity in the work area
3. Information on employee activity
    a. Job routines followed
    b. Location of employee work stations
    c. Time employee spends in the area (continuous and intermittent)
    d. Work rates, such as heavy exertion, light activity, and so forth
4. Information on known potential inhalation hazards
    a. Chemical composition of components used

b. Type of contamination

c. Acute and chronic toxicity data for contaminants present

- Country or local occupational exposure limits
- ACGIH Threshold Limit Value (TLV)
- Other sources

5. Industrial hygiene data, including measurements of the airborne contaminants (performed by a qualified industrial hygienist)

a. Time weighted averages (TWAs)

b. Peak exposure levels

c. Mixtures of chemicals

6. Other concerns

APPENDIX B REFERENCED DOCUMENTS

B.1 EL-Class Digital Documents

EL-Class Number	Document Title
EL-MF738-00	*GIA Environmental Health and Safety Working Alone Standard*

Use VTX SMC to order copies of EL-class documents from Standards and Methods Control. Send distribution questions to JOKUR::SMC or call DTN: 234-4423.

B.2 Other Digital Documents

Document Number	Document Title
	Health Services Manual, Policy and Procedures - Respirators: Medical Qualification for Employee Utilization

B.3 Other Documents

Document Number	Document Title
G-7.1-1968	*Compressed Gas Association Commodity Specification*

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